BCM-170 Series
LCD Monitor

USER MANUAL

- BCM-170-3HSV
- BCM-170-HSV
- BCM-170-SV
- BCM-170-V

[redacted]

PRODUCT INFORMATION

MODEL: BCM-170 Series LCD Monitor
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COMPANY NAME

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About The USER MANUAL

The user manual applies to the following device types:

- BCM-170-3G
- BCM-170-HD
- BCM-170-SD
- BCM-170-A

The images of BCM-170-HD monitor are adopted in the following descriptions. Any of the different specifications between the device types are elaborated. Before reading the manual, please confirm the device type.

Note: The specs are subject to change without prior notice!

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BCM-170 Series LCD Monitor

Chapter 1 Overview

Introduction

The BCM-170 Series LCD Monitor is a high performance broadcast monitor tailoring most applications from program production, intensive upload/download, playout to studio and intensive monitoring all sorts of business in TV Stations.

The front frame of the unit comes in a slim bezel design made from rubber mold. The professional IPS glass at full resolution of 1920 x 1080 with LED backlight makes the BCM-170 Series LCD Monitor capable of reproducing a natural color at quickest response time. In addition, the unit boasts a full wide viewing angle as well as excellent brightness and contrast ratio.

By adopting the advanced 10-bit digital signal processing technology plus 3D comb filter, de-interlacing capability and accurate scaling ensures the BCM-170 Series LCD Monitor to achieve a better effect of smoother and more natural image.

The BCM-170 Series LCD Monitor supports up to 2Ch 3G/HD/SD-SDI/analog input, 1Ch S-Video and ICh YPbPr input, and 1Ch HDMI/DVI-D input. Featuring PBP/PIP and showing two signals simultaneously on the same screen makes the BCM-215 with added value.

TheBCM-170 Series LCD Monitor delivers much capable display functionality like waveform/vector scope, audio de-embedding, audio monitoring, audio metering bar, TC, CC, AFD, UMD and all kinds of markers.

The BCM-170 Series LCD Monitor also offers signal monitoring function, a real time monitoring for video loss, freeze frame, audio loss, audio overloaded and audio over low.

Feature

- Prevailing slim bezel design
- Having multi format input including 3G-SDI
- Adopting full HD, wide viewing angle IPS glass
- Using 10-bit signal processing technology plus advanced conversion technology between the interlacing and the progressive
- Featuring PBP and PIP, dual 3G-SDI capable under PBP mode
- Supporting waveform/vector scope, audio metering bar, TC, IMD and CC
- Supporting varied color temperature, varied scan modes, flexibility in marker setting, Blue Only/Monochrome mode
- Signal monitoring, types of alarm include video/audio loss, EDH, freeze frame, black field and audio lever over high/over low

Chapter 2 Safety Precaution for Use

Read and keep these instructions. Heed all warnings. Follow all instructions.

About the Position

1. Do not block any ventilation openings.
2. Do not use this unit near water.
3. Do not expose the unit to rain or moisture.
4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that product heat.
5. A nameplate indicating operating voltage, etc., is located on the rear panel. Install only in accordance with the instructions in the section entitled, “Unpacking and Installation” on page 3.
6. The socket-outlet shall be installed near the equipment and shall be easily accessible.

About the Power-supply Cord

7. Do not defeat the safety purpose of the polarized or grounding-type plug.
8. Do not damage the power cord, place the heavy objects on the power cord, stretch the power cord, or bend the power cord.
9. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the unit.
10. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord. It may cause fire or electric shock.
11. Unplug this apparatus during lighting storms or when unused for long periods of time.
12. Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
13. Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.

Monitor

14. Do not beat with a hard object or scratch the LCD display.
15. Do not make the freeze picture displaying on the screen time too long, otherwise, it will leave the afterimage on the screen.
16. Install in accordance with the manufacturer's instructions
17. If the brightness is adjusted to the minimum, then it might be hard to see the display screen.
18. Refer all servicing to qualified service personnel. Servicing will be required under all of the following conditions:
    - The unit has been exposed to rain or moisture.
    - Liquid had been spilled or objects have fallen onto the unit.
    - The unit has been damaged in any way, such as when the power-supply cord or plug is damaged.
    - The unit does not operate normally.
19. Clean only with dry cloth.
20. Specifications are subject to change without notice.

Chapter 3 Product Introduction

Unpackaging and installation

Opening the box, please check whether the device has been damaged during transport. Check all the things listed on the packing list are received. If there is any missing, contact your distributors or Beijing Osee Digital Technology Ltd. for it.

We recommend that you should save the packing materials for future needs.

1. Install the pedestal following the iinstallation instructions.

   Note: The pedestal and the monitor are packaged separately.

2. Put the monitor on the position you need for installing, and connect the power. Please make sure the place you put is safety.

3. Connect a standard signal lines to the corresponding input port. All BNC connector impedance must be 75Ω.

   Note: Please use the power adapter supplied to avoid unnecessary trouble.

4. Use the power adapter and cord to connect single-phase three-wire AC power or following the local power supply conditions. Make sure the power cord grounding well.

5. Finally, turn on the power switch, so that the device will be ready for work.

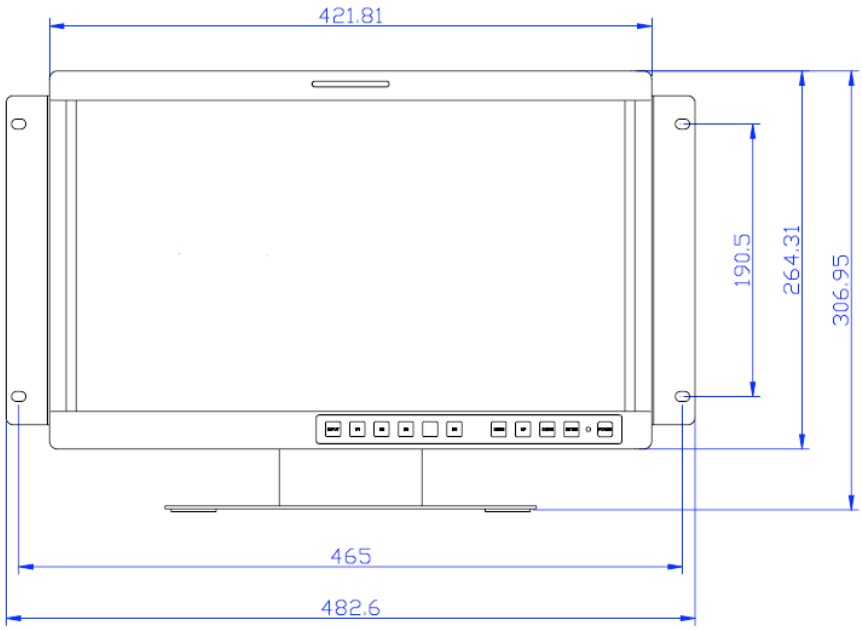
Packing List:

NO.	Detail list		Quantity
1	Monitor		1
2	Pedestal with screws		1
3	Accessory	warranty card	1
		the base installation instruction	1
		User manual	1
4	The electric accessory	12V adapter	1
		Power cord with fastening	1

Note: The packing list would be different according to the device type. Please confirm the device type. And the BCM-170 Series Monitor supports two modes of riding position. The monitor is equipped with the optional accessories for being assembled onto the racks.

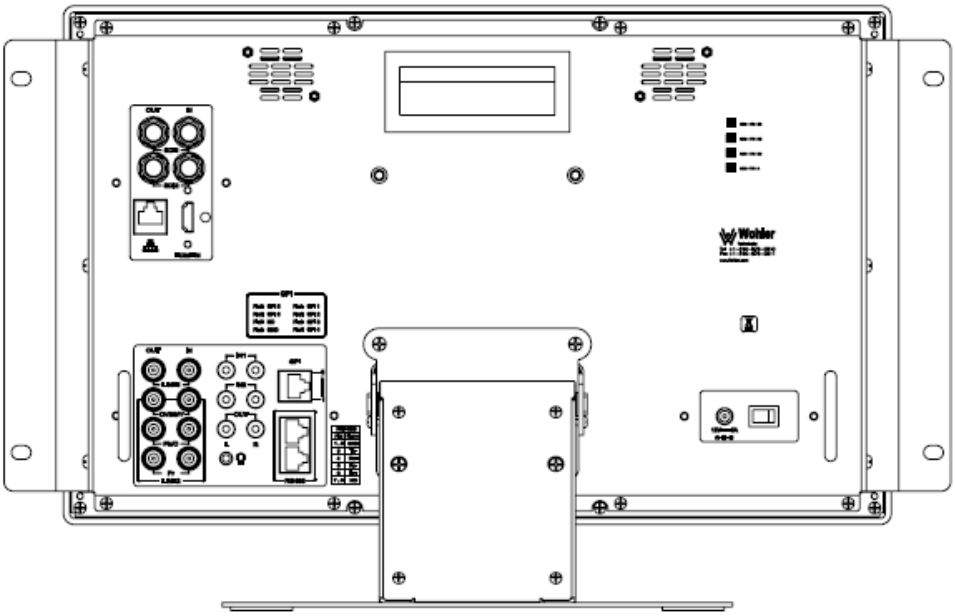
Description of product structure

Front panel (Unit: mm) (As the following figure)

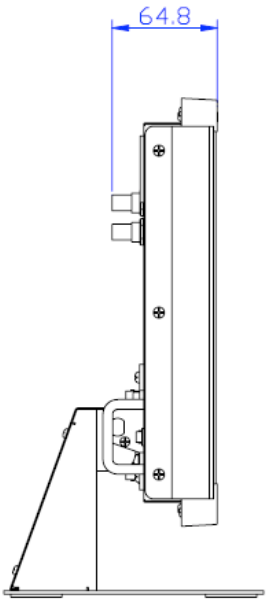


Note: As the figture shown, the monitor installed the pedestal and the optional accessories.

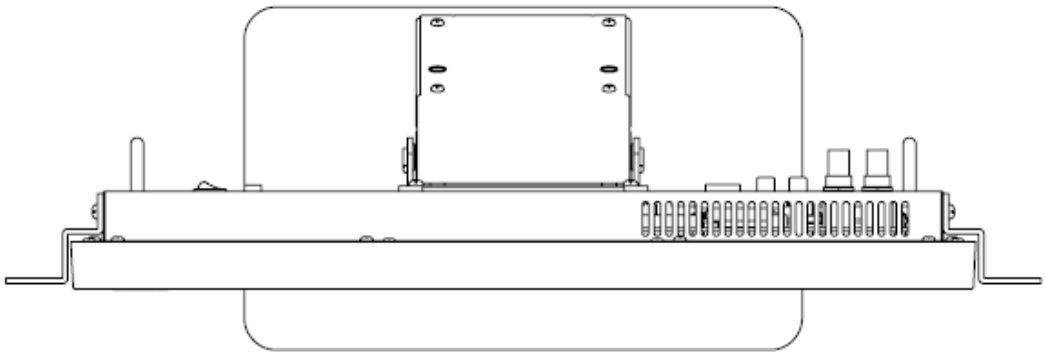
Rear panel (Unit: mm) (As the following figure)



Side view (Unit: mm) (As the following figure)



Top view (Unit: mm) (As the following figure)



Chapter 4 Usage

4.1 Description for Display status

1, Status information:	Displayed in the upper left corner of each window, including the input channel number and signal format. *Note: 1, If there is no signal input, it will display "NO SYNC" and if the monitor doesn't support the input signal, the display information will be "UNKNOWN". For the current input signal, it will lock displaying the corresponding video format. 2, the main screen status information is displayed in the upper left corner of the window, the additional screen state information is displayed in the upper right corner of the window.*
2, TC code:	Display Format: HH: MM: SS: FF and if there is no TC code, display --:--:--:--.
3, UMD / IMD:	16 characters can be displayed. Support the character color change (red, green, yellow, white).

4, OSD TALLY:	Display two OSD TALLY, support color transform (red, green, yellow).
5, Level meter:	Display audio meter. Support for semi-transparent display, can reduce the impact for the image. *Note: The audio level meter can be vertical or horizontal display. And more information about meter setup refers to Table 3.*
6, Waveform and vector display:	In PIP mode, it would display on the sub-window. In PBP mode, it would display side-by-side with the main window.
7, PBP/PIP：	The sub-window size is 1/9 or 1/16 of the main window. And the window sizes refer to 5.6 PBP/PIP Input. *Note: Marker setup is invalid in PBP mode.*
8, AFD	AFD will display at the upper center of the screen.
9, MUTE	The mute logo icon is . It can be setup in the function key menu.

4.2 Supported Signal Format

- Support two-channel analog video input with loop-through output, loop-through output and input are identical.
- Support two-channel adaptive SD/HD/3G-SDI video input and two-channel loop-through output.The loop-through output and input are identical.
- Support one channel DVI/HDMI input including HDMI audio.

Table-4.2 Supported signal format:

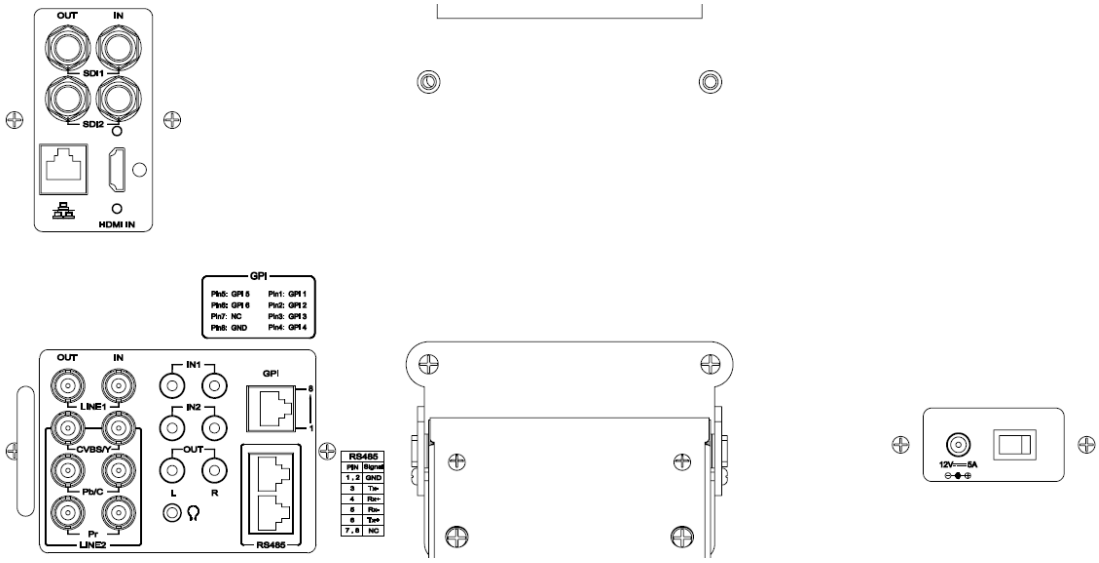
Signal Format	SDI	VIDEO	YC	YPBPR	HDMI
PAL		O	O		
NTSC		O	O		
480I60/59.94	O			O	O
576I50	O			O	O
480P60/59.94				O	O
576P50				O	O
720P24/23.97	O			O	
720P25	O			O	O
720P30/29.97	O			O	O
720P50	O			O	O
720P60/59.94	O			O	O
1080SF24/23.97	O			O	O
1035I60/59.94	O			O	O
1080I50	O			O	O
1080I60/59.94	O			O	O
1080P24/23.97	O			O	O
1080P25	O			O	O
1080P30/29.97	O			O	O
1080P50	O			O	O
1080P60/59.94	O			O	O
VGA(640X480)					O
SVGA(800X600)					O
XGA(1024X768)					O
SXGA(1280X1024)					O
WXGA(1360X768)					O

WXGA+(1440X900)					O
WXGA+(1400X1050)					O
UXGA(1600X1200)					O
UXGA+(1680X1050)					O
WUXGA(1920X1080)					O
WUXGA(1920X1200)					O

Note:" O" is the Supported signal format.

4.3 Interface of rear panel

Note: The specs are subject to change without prior notice.



1， video interface:

3G/HD/SD SDI signal input / output: BNC x4 (IN/OUT)

Composite signal input / output: BNC x4 (IN/OUT)

Y/C signal Input / Output: BNC x2 (IN/OUT)

YPbPr signal Input / Output: BNC x6 (IN/OUT)

HDMI/DVI-D signal Input / Output: HDMI Type-A x1 IN

2，Audio Interface:

Audio IN1: Audio signal input

Audio IN1: Audio signal input

Audio OUT: Audio signal output

3，The control interface:

GPI port

RJ45 input and output ports

Network port for parameter setup and information read

4，Power Interface:

DC12-19V input, 60W

4.4 Interface of front panel

- INPUT: Select the input signal.The source menu would display on the right conner of the window. Each time you press to switch in the following order: SDI 1, SDI 2, VIDEO, YPbPr, and HDMI. The machine retains input selection state. Unused inputs can choose to skip through the menu.
- F1 ~ F5: function keys, the function can be set via the FUNCTION menu. Open the FUNCTION menu after the first time, the selected function will remain.
- MENU: Enter the main menu item and enter the next sub-menu. Or press this key to backspace to the menu without save.
- ▽(DOWN): Select the menu item or select the option of the item.
- △(UP): Select the menu item or select the option of the item.
- ENTER: Press ENTER in turn to diaplay VOLUME, BRIGHTNESS, CONTRAST, CHROMA, APPERTURE menu. And in main menu, click the button to enter the next level menu, or press the botton to save the setup and backspace the menu.
- POWER: Power switch.

Chapter 5 Menu Description

5.1 Main menu

It displays as following fig 5.1.1 by pressing the MENU button.

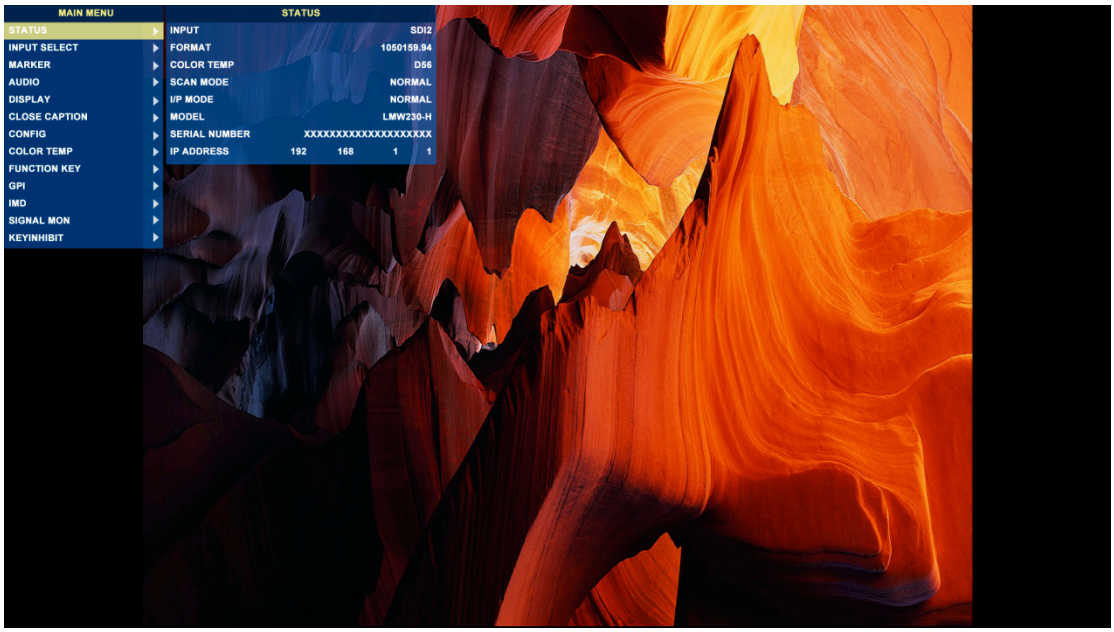


Fig 5.1.1

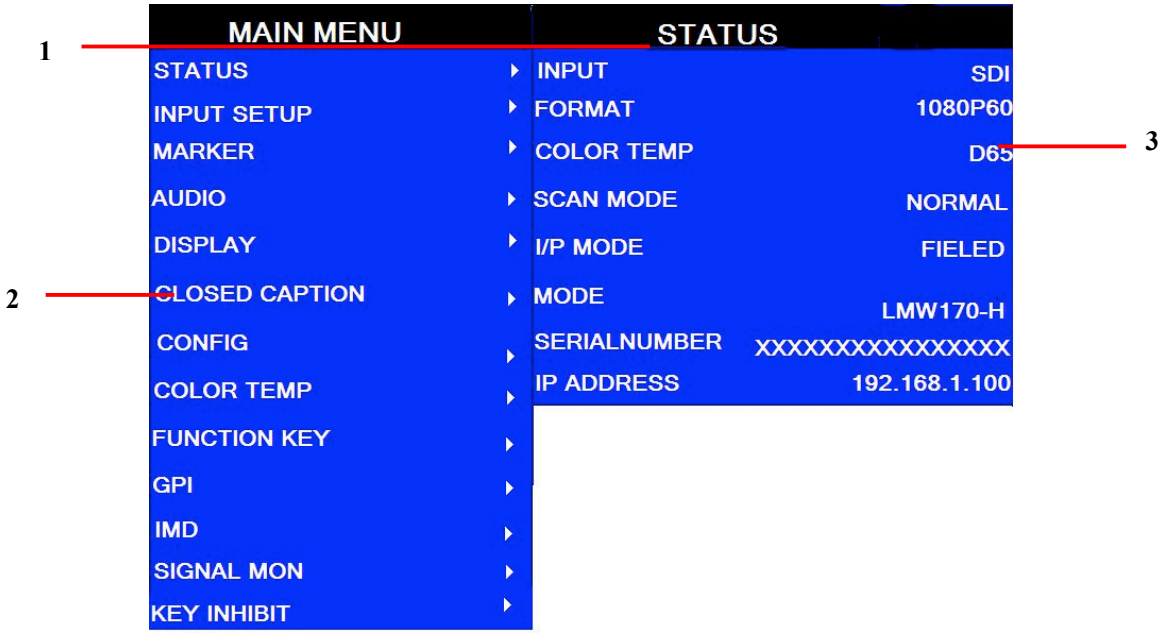


Fig5.1.2

1 Main menu NAME
The main menu item which is selected will be display.

2 Menu items
- Press MENU key, the menu will display in the screen.
- Press ENTER key to enter the item selected and press the ENTER ket again, the setup will be saved.
- Press MENU key to exit the menu and don't save the setup.

3 Sub-menu items
- Press UP/DOWN to switch the items.
- Press MENU key to backspace the main menu items.
- Press ENTER key to enter the sub-menu items which is selected.

Note:

1. *After the menu is enabled, the menu will refresh the current contents of the menu if the signal changes,*
2. *Press MENU key and if there is no operation within 60s, the menu will automatically disappear.*
3. *The main menu displays in the upper left corner of the screen with the translucent blue background and white font.*
4. *The background of selected menu item color changes to yellow.*
5. *Items can not be adjusted in the submenu would be gray.*

Details are as follows:

MAIN MENU	SUB-MENU	ITEMS
STATUS	Status messages	
INPUT SETUP(G)	SDI1	ON, OFF
	SDI2	ON, OFF
	LINE1	ON, OFF
	LINE2	CVBS, Y/C, YPbPr, OFF *Note: The BCM215 monitor support only.*
	HDMI	HDMI, DVI-D, OFF
	NTSC SETUP*2	0, 7.5
	NTSC PHASE	-50-0-50
MARKER*1(G)	MARKER	OFF, ON *Note: If you selected NATIVE, the MARKER will be disabled.*
	AREA MARKER	OFF, 4:3, 15:9, 14:9, 13:9, 1.85:1, 2.35:1(in 16:9mode); OFF, 16:9
	CENTER MARKER	OFF, ON
	SAFETY MARKER	OFF, 80%, 85%, 88%, 90%, 93%, 95%, 100%
	MARKER LEVEL	1, 2, 3 1: amount to 50% white level 2: amount to 75% white level 3: amount to 100% white level
	MARKER MAT	OFF, HALF, BLACK

ADUIO*1	AUDIO SOURCE（S）	AUDIO1, AUDIO2, UNDEF (VIDEO1 in) AUDIO1, AUDIO2, UNDEF (VIDEO2/ YC/YPBPR in) AUDIO1, AUDIO2, EMBEDDED, UNDEF (SDI1/SDI2/HDMI in) *Note: UNDEFINED is simple spelled as undef.*
	SPEAK OUT L（S）	EBD CH1, EBD CH2, EBD CH3, EBD CH4, EBD CH5, EBD CH6, EBD CH7, EBD CH8, EBD CH9, EBD CH10, EBD CH11, EBD CH12, EBD CH13, EBD CH14, EBD CH15, EBD CH16 *Note: When the AUDIO SOURCE is EMBEDDED，the inputwould be SDI. When the input is HDMI, this item is disabled. When the AUDIO SOURCE is AUDIO1, AUDIO2 orUNDEF, this item is disabled.*
	SPEAK OUT R（S）	EBD CH1, EBD CH2, EBD CH3, EBD CH4, EBD CH5, EBD CH6, EBD CH7, EBD CH8, EBD CH9, EBD CH10, EBD CH11, EBD CH12, EBD CH13, EBD CH14, EBD CH15, EBD CH16 *Note: When the AUDIO SOURCE is EMBEDDED，the inputwould be SDI. When the input is HDMI, this item is disabled. When the AUDIO SOURCE is AUDIO1, AUDIO2 orUNDEF, this item is disabled.*
	AUDIO METER（G）	OFF, ON
	MTER SELECT(G)	CH1-2,G1,G2,G3,G4,G1+2,G1+3,G1+4,G2+3,G2+4,G3+4,G1-4
	METER DIS MODE	SIMPLE,INTACT
	METER POSITION	TOP,BOTTOM,(when the METER DIRECTION is HORIZONTAL); BOT LEFT,BOT RIGHT,TOP RIGHT,TOP LEFT(when the METER DIRECTION is VERTICAL);
	METER DISPALY MODE	MODE1,MODE2,MODE3 *Note: The MODE1 is the Simple meter mode. The MODE2 is the meter with channel name and the MODE3 is the meter with channle name and level vaule.*
	REF LEVEL(G)	-20dB, -18dB
	OVER LEVEL(G)	-10dB, -8dB, -6dB, -4dB, -2dB
DISPLAY	STATUS DISPLAY(G)	OFF, AUTO, ON *Note: When the setuo is AUTO, the signal status display for 15s and then disappears when it changed.*
	AFD DISPLAY(G)	OFF, ON *Note: When it is setted as ON, it would display follow the STATUS or be OFF. If the input is not SDI signal, it can be set but does not enable. When STATUS is set to AUTO, and AFD is ON, either STATUS or AFD changes, it will show the STATUS and AFD information.*
	WAVE FORM MODE*1(G)	WAVEFORM,VECTOR 75,VECTOR 100,LINE WAVE *Note: If the input is not SDI signal, it can be set but does not enable.*

	WAVE OVER(G) LIMIT*1(G)	50-100 *Note: If the input is not SDI signal, it can be set but does not enable.When it is set to 100, OVER LIMIT does not enable.*
	WAVE UNDER LIMIT*1(G)	0-50 *Note: If the input is not SDI signal, it can be set but does not enable.When it is set to 0, OVER LIMIT does not enable.*
	LINE WAVE(G)	23-310-623 (when the Input format is 576i50 ;) 22-261-524 (when the Input format is 480i60 ;) 26-386-745 (when the Input format is 720p ;) 21-560-1123 (when the Input format is 1080i50,60/59.94,sf23/23.97 ;) 41-557-1120 (when the Input format is 1035i60 ;) 42-561-1121 (when the Input format is 1080p ;)
	TIME CODE*1(G)	OFF, VITC, LTC, D-VITC *Note: If the input is not SDI signal, it can be set but does not enable.*
CLOSE CAPTION	CLOSE CAPTION*1(G)	OFF, CC1, CC2, CC3, CC4, TEXT1, TEXT2, TEXT3, TEXT4(in Y/C/NTSC signal)
	SDI CC LOG	OFF,ON
CONFIG	I/P MODE*1(S)	NORMAL, FILM, FIELD *Note: If the input is DVI signal, it can be set but does not enable.When it is set to 0, OVER LIMIT does not enable. It is used to minimize the de-interlacing processing time delay and improves the quality of fast moving and fine details under interlaced format.* *NORMAL:2 full fields per frame,delay 1 frame time;* *FIELD: Fast mode,1 field per frame,delay 1/2 frame time;*
	SUB IN TYPE(G)	OFF,PBP,PIP
	SUB IN SELECT*1(S)	In SDI1: SDI2,VIDEO1,VIDEO2,YC,YPBPR,HDMI,WAVE FORM; In SDI2: SDI1,VIDEO1,VIDEO2,YC,YPBPR,HDMI,WAVE FORM; In VIDEO1:SDI1,SDI2,YPBPR,HDMI; In VIDEO2: SDI1,SDI2,YPBPR,HDMI; In YC: SDI1,SDI2,YPBPR,HDMI; In YPBPR: SDI1,SDI2, VIDEO1,VIDEO2,YC,HDMI; In HDMI: SDI1,SDI2, VIDEO1,VIDEO2,YC ,YPBPR;
	PIP SIZE(G)	SMALL,LARGE
	PIP POSTION(G)	BOT LEFT,BOT RIGHT,TOP RIGHT,TOP LEFT
	BACKLIGHT(G)	0-15-30
	AUTO STANDBY(G)	OFF, ON *Note: When it is set to ON, if the siganl is diappear for 1 minute, the device will be standby.*
	APPERTURE	0-24

	LOCK NUMBER(G)	XXXXXXXX *Note: Support 8 characters. Characters including 0-9 and A-Z. Press the ENTER key to input and press UP or DOWN button to select a character. Press the ENTER key to select the next character and press the MENU key to exit edit.*
	LANGUAGE(G)	ENGLISH, 中文
COLOR TEMP*1	COLOR TEMP(G)	D93, D65, D56, D32,USER1, USER2
	RED GAIN(G)	0-128-256
	GREEN GAIN(G)	0-128-256
	BLUE GAIN(G)	0-128-256
	RED BIAS(G)	-50-0-50
	BLUE BIAS(G)	-50-0-50
	GREEN BIAS(G)	-50-0-50
	COPY FROM	Copy the color temp to USER from D93, D65, D56, D50.
	RESET(G)	Reset R/G/B GAIN and R/G/B BIAS to default vaule.
	COLOR SPACE	OFF,EBU,SMPTE-C,ITU-709
FUNCTION KEY	F1	SCAN, NATIVE (When the LCD resolution is less than the input image resolution, continuously press NATIVE, the display position will loop. Or press SCAN to exit NATIVE.), ASPECT, BLUE ONLY, MONO, MARKER, H/V DELAY, AUDIO METER, I/P MODE, TC, IMD, MUTE, PBP, CC, UNDEF Parameter specification: SCAN: NORMAL-OVER-UNDER NATIVE: When the LCD resolution is less than the input image resolution: OFF-TOP LEFT-TOP RIGHT-BOTTOM RIGHT-BOTTOM LEFT-MIDDLE; Or: OFF-ON ASPECT: 4:3 -16:9 BLUE ONLY: OFF-ON MONO: OFF-ON MARKER: OFF-ON H/V DELAY: H DELAY-V DELAY-H/V DELAY AUDIO METER: OFF-ON I/P MODEvNORMAL-FILM-FIELD TC: OFF-VITC-LTC IMD: OFF-ON MUTE: OFF-ON PBP: OFF-ON CC: OFF-ON
	F2	Ditto
	F3	Ditto
	F4	Ditto
	F5	Ditto
GPI	GPI1	UNDEF, AREA MARKER, CENTER MARKER,SAFETY MARKER, ASPECT,NATIVE,OVER SCAN, UNDER SCAN,

		BLUE ONLY,MONO, H DELAY,V DELAY,H/V DELAY, SDI1, SDI2, LINE1, LINE2, HDMI, TALLY GREEN, TALLY RED *Note: Details are as Table 5.1.2.*
	GPI2	Ditto
	GPI3	Ditto
	GPI4	Ditto
	GPI5	Ditto
	GPI6	Ditto
IMD(G)	IMD DISPLAY	ON, OFF
	IMD COLOR	RED, GREEN, YELLOW, WHITE
	IMD CHARACTER	XXXXXXXXXXXXXXX *Note: Support 16 characters. Characters including 0x00 and 0x7F (ASCII). Press the ENTER key to input IMD and press UP or DOWN button to select a character. Press the ENTER key to select the next character and press the MENU key to exit edit.*
	IMD PROTOCOL	LOCAL, TSL3.1, TSL4.0,TSL5.0, IMAGE VIDEO,NETWORK
	IMD ID	0 – 255
	IMD NAME	XXXXXXXXXXX *Note: Support 16 characters. Characters including 0x00 and 0x7F (ASCII). Press the ENTER key to input IMD and press UP or DOWN button to select a character. Press the ENTER key to select the next character and press the MENU key to exit edit.*
	BAUD RATE	2400, 4800, 9600, 19200, 38400, 57600, 115200 *Note: TSL V3.1 and TSL V4.0 default value is 38400； In Image Video, the items are 9600, 19200, 38400.*
	LED TALLY	ON, OFF
	OSD TALLY MODE	RG, GR, RGY, OFF *Note: Use this setup to select OSD Tally mode, only TALLY source for standard or standard + IV422, the setup is available.*
	IMD TALLY MODE	T1, T2, T1T2, T2T1, T1-, T2-, T1T2-, T2T1- *Note: In Image Video tally control, use this setup to determine the selection state.*
	TALLY SOURCE	STANDARD, IMAGE VIDEO ,TSL STANDARD: GPI triggers OSD TALLY IMAGE VIDEO :IMAGE VIDEO treaty triggers OSD TALLY TSL:TSL treaty triggers OSD TALLY
KEY INHIBIT(G)		ON, OFF *Note: The KEY INHIBIT is ON, KEY INHIBIT is enabled and press the POWER key, the device would turn on or off. MENU，UP，DOWN，ENTER key can be enable but only the KEYINHIBIT can disaplay.*

Note:

- **1 - each input would be respectively set.*

- *Dash of select items is the default value.*

Table 5.1.2. GPI Control

MONO	Low: MONO; High: NORMAL	BLUE ONLY	Low: BLUE ONLY; High: NORMAL
ASPECT	Low: 16:9 High: 4:3	NATIVE	Low: NATIVE(In center); High: NORMAL
AREA MARKER	Low: Enabled; High: Disabled	SDI1	Switch at the falling edge, when switching to the other input, exit.
CENTER MARKER	Low: Enabled; High: Disabled	SDI2	Switch at the falling edge, when switching to the other input, exit.
SAFETY MARKER	Low: Enabled; High: Disabled	VIDEO1	Switch at the falling edge, when switching to the other input, exit.
OVER SCAN	Low: OVER; High: NORMAL	VIDEO2	Switch at the falling edge, when switching to the other input, exit.
UNDER SCAN	Low: UNDER; High: NORMAL	HDMI	Switch at the falling edge, when switching to the other input, exit.
H DELAY	Low: H DELAY; High: NORMAL	TALLY GREEN	Low: ON; High: OFF
V DELAY	Low: V DELAY; High: NORMAL	TALLY RED	Low: ON; High: OFF
H/V DELAY	Low: H/V DELAY; High: NORMAL	-	-

Note: GPI control: when itchanges it would be as a control value of response control. If the level does not change, but there are other control caused by changes in the control value, perform this change. When boot, detect the GPI input status after initialization. If a GPI value is low, the monitor will control the corresponding operation. The TALLY is directly control by the level.

Table 5.1.3 Function

Function	Composite & Y/C	YPbPr(SD)	YPbPr(HD)	SDI(SD)	SDI(HD)	HDMI(SD)	HDMI(HD)
Volume(S)	O	O	O	O	O	O	O
Contrast(S)	O	O	O	O	O	O	O
Brightness(S)	O	O	O	O	O	O	O
Chroma(S)	O	O	O	O	O	O	O
Phase(S)	O(NSTC)	X	X	X	X	X	X
Aperature(S)	O	O	O	O	O	O	O
Backlight(G)	O	O	O	O	O	O	O
Color Temp(G)	O	O	O	O	O	O	O
NTSC Setup(G)	O(NSTC)	X	X	X	X	X	X
Scan(S)	O	O	O	O	O	O	O
Native(S)	O	O	O	O	O	O	O
Aapect(S)	O	O	X	O	X	O	X
Marker(G)	O	O	O	O	O	O	O
Blue Only(G)	O	O	O	O	O	O	O
Mono(G)	O	O	O	O	O	O	O
H/V Delay(G)	O	O	O	O	O	X	X

Auto Standby(G)	O	O	O	O	O	O	O
I/P MODE(S)	O	O	O	O	O	O	O
WFM/VECT(G)	X	X	X	O	O	X	X
Audio Meter(G)	O	O	O	O	O	O	O
TC(G)	X	X	X	O	O	X	X
IMD(G)	O	O	O	O	O	O	O
Mute(G)	O	O	O	O	O	O	O
CC(S)	O(NSTC)	X	X	O	O(HD)	X	X
SubWin (S)	O	O	O	O	O	O	O

Note: "G" represents the channel is irrelevant; "S" indicates that set associated the channel. Siganl channel such as SDI1，SDI2，VIDEO1，VIDEO2，YC，YPBPR，HDMI.

5.2 Status Display

Press MENU, it will display the status information as following. If there is no operation for 10 seconds, the menu would disappear.

INPUT	SDI1（or others）
FORMAT	1080I50（DVI: 1024X768@60, etc.）
COLOR TEMP	D65
SCAN MODE	NORMAL
I/P MODE	NORMAL，FIELD，FILM
MODEL	BCM-170-H (according to the monitor）
SERIAL NUMBER	XXXXXXXXXXXXXXX
IP ADDRESS	168.192.1.1
COLOR VERSION	65535 – 255 – 255 . 65535

5.3 Function Display

In all mode, the function menus are displayed in the lower left corner of the screen, with blue background and white font. The background color of the currently selected item changes into yellow. If there is no operation for 10 seconds, the menu would disappear.

Detailed information refers to main menu table

5.4 Adjustment Menu

When it is not in main menu mode, press ENTER to disaplay VOLUME/BRIGHTNESS/CONTRAST/CHROMA menu items. If there is no operation for 10 seconds, the menu would disappear.

5.5 Source menu

Source menu displays in the upper-right corner of the screen, with blue background and white font. The background color of the currently selected item changes into yellow.

In the menu, the sourse which can not be selected is still display with gray point.

5.6 PBP/PIP Input

Table 5.6.1 PBP/PIP Input source

Sub / Main	SDI1	SDI2	VIDEO1	VIDEO2	YC	YPBPR	HDMI	WAVEFORM
SDI1	X	O	O	O	O	O	O	O
SDI2	O	X	O	O	O	O	O	O
VIDEO1	O	O	X	X	X	O	O	X
VIDEO2	O	O	X	X	X	O	O	X
YC	O	O	X	X	X	O	O	X
YPBPR	O	O	O	O	O	X	O	X
HDMI	O	O	O	O	O	O	X	X

Table 5.6.2 PBP screen size

Ratio / Signal	4:3	16:9
SD	PanelWidth/2 X (PanelWidth/2)*3/4	PanelWidth/2 X PanelHeight/2
HD	X	PanelWidth/2 X PanelHeight/2
WAVEFORM	PanelHeight/2 X PanelHeight/2	PanelHeight/2 X PanelHeight/2

Table 5.6.2 PIP screen size

Ratio / Signal	4:3	16:9
SD SMALL	(PanelWidth/4)*3/4 X PanelHeight/4	PanelWidth/4 X PanelHeight/4
HD SMALL	X	PanelWidth/4 X PanelHeight/4
SD LARGE	(PanelWidth/4)*3/4 X PanelHeight/4	PanelWidth/3 X PanelHeight/3
HD LARGE	X	PanelWidth/3 X PanelHeight/3
WAVEFORM SMALL	PanelHeight/4 X PanelHeight/4	PanelHeight/4 X PanelHeight/4

Chapter 6 Specification

6.1 Description for Specification

LCD Dimension	17.3”
Screen Scale	16:9
Resolution	1920 (H) x 1080 (V)
Color Depth	16.7M, 24-bit
Viewing Angle	178°(H/V)
Brightness	250 cd/m^2
Contrast Ratio	1000:1

6.2 Input signal format

Analog Composite:	PAL, NTSC
SD-SDI:	480i、576i
HD-SDI:	1080i50、1080i 59.94、 1080i 60， 720p50、720p 59.94、720p 60，1035i59.94、1035i 60
3G-SDI:	1080p50、1080p 59.94、1080p 60

6.3 Specifications

CVBS Input/ Output:

Signal Type	NTSC, PAL
Signal Amplitude	1Vp-p+/-3dB
Impedance	75 ohms
Return Loss	>40 dB 到 5 MHz
DC Offset	0V±0.05 V
Frequency Response	±0.2 dB to 5 MHz
Differential Gain	<1%
Differential Phase	<1.5°

3G-SDI /HD-SDI /SDI-SDI Input/ Output:

Signal Type	SMPTE 424M, SMPTE 292M, SMPTE 259M, SMPTE 297M
Connector	BNC per IEC 169-8
Impedance	75 ohms
Return Loss	>18 dB 5 to 270 MHz
	>15 dB 270 MHz to 1.5 GHz
	>10 dB up to 3 GHz
Maximum Signal Level	800 mV pk-pk 10%
Signal Amplitude	800 mV pk-pk 10%
DC Offset	0 V ±0.5 V
Overshoot	<10%
Total Jitter	<0.2 UI
Rise and Fall Time	<700 ps for SD
	<270 ps for 1.5 Gb/s HD
	<135 ps for 3 Gb/s HD
Extinction Ratio	>8
Back Reflection	<-14 dB

6.4 Input/Output Resolution, Frame Refresh Rate and Color Matrix:

	OVERSCAN		NATIVE		FULL NORMAL		Frame Rate	Color Matrix
	INPUT	OUTPUT	INPUT	OUTPUT	INPUT ALL	OUTPUT NORMAL		
NTSC	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768 1024X768	60	601
PAL	684X548	1366X768 1024X768	720X576	720X576	720X576	1366X768, 1024X768	50	601
SECAM	684X548	1366X768 1024X768	720X576	720X576	720X576	1366X768, 1024X768	50	601
NTCS-4.43	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768, 1024X768	60	601
PAL-M	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768, 1024X768	60	601
480I60	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768, 1024X768	60	601/709
576I50	684X548	1366X768 1024X768	720X576	720X576	720X576	1366X768, 1024X768	50	601
480P60	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768, 1024X768	60	601/709
576P50	684X548	1366X768 1024X768	720X576	720X576	720X576	1366X768, 1024X768	50	601
720P24	1216X684	1366X768,	1280x720	1280x720	1280x720	1366X768,	48	709
720P25	1216X684	1366X768,	1280x720	1280x720	1280x720	1366X768,	50	709
720P30	1216X684	1366X768,	1280x720	1280x720	1280x720	1366X768,	30	709
720P50	1216X684	1366X768,	1280x720	1280x720	1280x720	1366X768,	50	709
720P60	1216X684	1366X768,	1280x720	1280x720	1280x720	1366X768,	60	709
1035I60	1824X984	1366X768,	1920X1035	1920X1035	1920X1035	1366X768,	60	709
1080I60	1824X1026	1366X768,	1920X1080	1920X1080	1920X1080	1366X768,	60	709
1080I50	1824X1026	1366X768,	1920X1080	1920X1080	1920X1080	1366X768,	50	709
1080P24	1824X1026	1366X768,	1920X1080	1920X1080	1920X1080	1366X768,	48	709
1080P25	1824X1026	1366X768,	1920X1080	1920X1080	1920X1080	1366X768,	50	709
1080P30	1824X1026	1366X768,	1920X1080	1920X1080	1920X1080	1366X768,	60	709
1080P50	1824X1026	1366X768,	1920X1080	1920X1080	1920X1080	1366X768,	50	709
1080P60	1824X1026	1366X768,	1920X1080	1920X1080	1920X1080	1366X768,	60	709
1080SF24	1824X1026	1366X768,	1920X1080	1920X1080	1920X1080	1366X768,	48	709
VGA					640X480	1366X768	60-75	
SVGA					800X600	1366X768	60-75	

XGA					1024x768	1366X768	60-75	
SXGA					1280x1024	1366X768	60-75	
UXGA					1600x1200	1366X768	60	
WXGA					1360X768	1360X768	60	
WUXGA					1920x1200	1366X768	60	

*Don't display all OSD except FORMAT when SCAN is NATIVE.

*Don't display MARKER when SCAN is NATIVE.

Note: The specs are subject to change without prior notice!